UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,932	11/21/2001	Robert J. Sicurelli JR.	211014SicFlxCIP	4222

4988 7590 09/02/2008

ALFRED M. WALKER
225 OLD COUNTRY ROAD
MELVILLE, NY 11747-2712

EXAMINER	
WILSON, JOHN J	

ART UNIT	PAPER NUMBER
3732	

MAIL DATE	DELIVERY MODE
09/02/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/990,932	SICURELLI ET AL.	
	Examiner	Art Unit	
	John J. Wilson	3732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *33-35,38-40,42,44-46,50,52-55,58-61,64,65,70-78 and 80-108* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *33-35,38-40,42,44-46,50,52-55,58-61,64,65,70-78 and 80-108* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 33, 35, 38, 42, 44-46, 50, 53-55, 58-61, 64, 65, 70, 71, 74-78, 80-82, 84, 85, 88, 89, 91-103 and 105-108 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Albert (5564929). Reynaud shows a prefabricated post comprising a bundle of non-metallic and non-woven fibers 5 in a resin 4. The fibers and resin of Reynaud are inherently flexible to some degree, however, Reynaud shows using carbon fibers not glass. Albert teaches the use of alternative fibers including carbon or glass, column 2, lines 59-65. It would be obvious to one of ordinary skill in the art to modify Reynaud to include the use of glass fibers as suggested by Albert in order to make use of known alternative materials in order to obtain the desired known properties of those materials. Reynaud teaches matching properties of the tooth including the modulus of elasticity. To use the inherently more flexible glass to better match such properties would have been obvious to one of ordinary skill in the art. The specific shape of the post used is an obvious matter of choice in shape to best match the canal. To include force vectoring and to

approximately match the flexibility of a natural tooth are obvious matters of choice in the degree of matching the tooth properties to one of ordinary skill in the art. The specific type of glass fibers used is an obvious matter of choice in known materials to one of ordinary skill in the art. The specific type of resin used is an obvious matter of choice in the use of known materials to the skilled artisan. To include surface texturing or facets are well known to one of ordinary skill in the post art in order to improve the hold in the tooth canal. To call the post, a pin, is merely terminology, and therefore, is not given patentable weight. Reynaud shows compacted fibers in the drawings, however, does not state a type or degree of compacting. The limitation "loosely" is a relative term that describes a degree of compacting that can depend on comparison and/or interpretation, and as such, the degree of compactness of the fibers is an obvious matter of choice in the degree of a known parameter to one of ordinary skill in the art. Reynaud does not show twisted fibers. Albert shows twisted fibers in Figs. 4 and 8. It would be obvious to one of ordinary skill in the art to modify Reynaud to include twisting the fibers as shown by Albert in order to make use of known shapes to obtain the desired properties. The shown structure of Reynaud is inherently capable of being positions above the coronal end of a tooth canal in use. The structure of Reynaud is inherently capable of being selectively flared depending on the intended use. With respect to claims 105-108, to use medical grade fibers in a device that is intended to be placed within the body would have been obvious to one of ordinary skill in the art in order to not harm the patient. The combination will inherently include the property of stress relief.

Claims 34 and 90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Albert (5564929) as applied to the claims above, and further in view of Kwiatkowski (4936776). The above combination does not show translucent. Kwiatkowski teaches using a translucent post. It would be obvious to one of ordinary skill in the art to modify the above combination to include a translucent post as shown by Kwiatkowski in order to preserve the normal look of a tooth.

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Albert (5564929) as applied to the claims above, and further in view of Al Kasem (5326264). The above combination does not show using an opaque material. Al Kasem teaches using an opaque filler, column 18, line 19. It would be obvious to one of ordinary skill in the art to modify the above combination to include the use of an opaque material as shown by Al Kasem in order to make use of known materials for best matching the tooth.

Claims 40 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Albert (5564929) as applied to the claims above, and further in view of Weissman (5326263). The above combination does not show a end shaped to be rounded and to direct light. Weissman shows an end shaped to direct light, Fig. 6, that can be rounded, column 5, lines 1-3 and column 6, lines 1-4, and to direct light. It would be obvious to one of ordinary skill in the art to modify the above combination to include a shaped end as shown by Weissman in order to direct

light. To shape the end by polishing is an obvious matter of choice in the process used to obtain a known structure to the skilled artisan.

Claims 72 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Albert (5564929) and Al Kasem (5326264) as applied to the claim 39 above, and further in view of Fujisawa et al (4931096). The above combination does not show the use of a radio opaque material. Fujisawa teaches the use of radio opaque material including barium sulfate, column 2, lines 10-16. It would be obvious to one of ordinary skill in the art to modify the above combination to include radio opaque material as shown by Fujisawa in order to enable the material to show up on radiograph.

Claims 83, 86 and 87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Albert (5564929) as applied to the claims above, and further in view of Fujisawa et al (4931096). The above combination does not show the use of a radio opaque material. Fujisawa teaches the use of radio opaque material including barium sulfate, column 2, lines 10-16. It would be obvious to one of ordinary skill in the art to modify the above combination to include radio opaque material as shown by Fujisawa in order to enable the material to show up on radiograph.

Claim 104 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Albert (5564929) as applied to the claims above,

and further in view of Nordin (5282747). The above combination does not show a core spacer. Nordin shows a core spacer 46. It would be obvious to one of ordinary skill in the art to modify the above combination to include a core spacer as shown by Nordin in order to better hold a crown.

Claims 33, 35, 38, 42, 44-46, 50, 53-55, 58-61, 64, 65, 70, 71, 74, 77, 95, 97-99, 105 and 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Goldberg et al (4894012). Reynaud shows a post comprising a bundle of non-metallic and non-woven fibers 5 in a resin 4. The fibers and resin of Reynaud are inherently flexible to some degree, however, Reynaud shows using carbon fibers not fiberglass. Goldberg teaches the use of alternative fibers including carbon or glass, column 6, lines 13-19, for producing dental appliances. It would be obvious to one of ordinary skill in the art to modify Reynaud to include the use of glass fibers as suggested by Goldberg in order to make use of common alternative materials in order to obtain the desired known properties of those materials, the combination being further obvious because teaches the use of many different reinforcing fibers, and gives no criticality to the use of fiberglass. Reynaud teaches matching properties of the tooth including the modulus of elasticity. To use the inherently more flexible glass to better match such properties would have been obvious to one of ordinary skill in the art. To include force vectoring and to approximately match the flexibility of a natural tooth are obvious matters of choice in the degree of matching the tooth properties to one of ordinary skill in the art. The specific shape of the post used is an obvious matter of

choice in shape to best match the canal. The specific type of glass fibers used is an obvious matter of choice in known materials to one of ordinary skill in the art. The specific type of resin used is an obvious matter of choice in the use of known materials to the skilled artisan. To include surface texturing or facets are well known to one of ordinary skill in the post art in order to improve the hold in the tooth. To call the post, a pin, is merely terminology, and therefore, is not given patentable weight. Reynaud shows compacted fibers in the drawings, however, does not state a type or degree of compacting. The limitation "loosely" is a relative term that describes a degree of compacting that can depend on comparison and/or interpretation, and as such, the degree of compactness of the fibers is an obvious matter of choice in the degree of a known parameter to one of ordinary skill in the art. With respect to claims 105 and 106, to use medical grade fibers in a device that is intended to be placed within the body would have been obvious to one of ordinary skill in the art in order to not harm the patient. The combination will inherently include the property of stress relief.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Goldberg et al (4894012) as applied to the claims above, and further in view of Kwiatkowski (4936776). The above combination does not show translucent. Kwiatkowski teaches using a translucent post. It would be obvious to one of ordinary skill in the art to modify the above combination to include a translucent post as shown by Kwiatkowski in order to preserve the normal look of a tooth.

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Goldberg et al (4894012) as applied to the claims above, and further in view of Al Kasem (5326264). The above combination does not show using an opaque material. Al Kasem teaches using an opaque filler, column 18, line 19. It would be obvious to one of ordinary skill in the art to modify the above combination to include the use of an opaque material as shown by Al Kasem in order to make use of known materials for best matching the tooth.

Claims 40 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Goldberg et al (4894012) as applied to the claims above, and further in view of Weissman (5326263). The above combination does not show a end shaped to be rounded and to direct light. Weissman shows an end shaped to direct light, Fig. 6, that can be rounded, column 5, lines 1-3 and column 6, lines 1-4, and to direct light. It would be obvious to one of ordinary skill in the art to modify the above combination to include a shaped end as shown by Weissman in order to direct light. To shape the end by polishing is an obvious matter of choice in the process used to obtain a known structure to the skilled artisan.

Claims 72 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Goldberg et al (4894012) and Al Kasem (5326264) as applied to the claim 39 above, and further in view of Fujisawa et al (4931096). The above combination does not show the use of a radio opaque material.

Fujisawa teaches the use of radio opaque material including barium sulfate, column 2, lines 10-16. It would be obvious to one of ordinary skill in the art to modify the above combination to include radio opaque material as shown by Fujisawa in order to enable the material to show up on radiograph.

Claims 75, 76, 78, 80-82, 84, 85, 88, 89, 91, 96,100-103, 107 and 108 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Goldberg et al (4894012) as applied above, and further in view of Himmel et al (GB 2214087). The above combination does not show twisted fibers. Himmel shows twisting fibers, page 3, last paragraph. It would be obvious to one of ordinary skill in the art to modify the above combination to include twisting the fibers as shown by Himmel in order to make use of known shapes to obtain the desired properties. The shown structure of Reynaud is inherently capable of being positions above the coronal end of a tooth canal in use. The structure of Reynaud is inherently capable of being selectively flared depending on the intended use. With respect to claims 107 and 108, to use medical grade fibers in a device that is intended to be placed within the body would have been obvious to one of ordinary skill in the art in order to not harm the patient. The combination will inherently include the property of stress relief.

Claims 83, 86 and 87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Goldberg et al (4894012) as applied to the claims above, and further in view of Fujisawa et al (4931096). The above combination

does not show the use of a radio opaque material. Fujisawa teaches the use of radio opaque material including barium sulfate, column 2, lines 10-16. It would be obvious to one of ordinary skill in the art to modify the above combination to include radio opaque material as shown by Fujisawa in order to enable the material to show up on radiograph.

Claim 90 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Goldberg et al (4894012) and Himmel et al (GB 2214087) as applied to claim 78 above, and further in view of Kwiatkowski (4936776). The above combination does not show translucent. Kwiatkowski teaches using a translucent post. It would be obvious to one of ordinary skill in the art to modify the above combination to include a translucent post as shown by Kwiatkowski in order to preserve the normal look of a tooth.

Claim 104 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Goldberg et al (4894012) and Himmel et al (GB 2214087) as applied to claim 102 above, and further in view of Nordin (5282747). The above combination does not show a core spacer. Nordin shows a core spacer 46. It would be obvious to one of ordinary skill in the art to modify the above combination to include a core spacer as shown by Nordin in order to better hold a crown.

Response to Amendment

The declaration under 37 CFR 1.132 filed May 25, 2008 is insufficient to overcome the rejection of the claims based upon unexpected results as set forth in the last Office action because: There is no actual evidence comparing the invention as claimed to the prior art or other evidence of unexpected results. The declaration does provided evidence used in supporting arguments made, such evidence is responded to below in the response to arguments.

Response to Arguments

Applicant's arguments filed May 25, 2008 have been fully considered but they are not persuasive. With respect to the new language added to the claims, all of the claimed structure being obvious, the combination will inherently include the property of stress relief. With respect to Alpert not being prior art, applicant is directed to responses make before in previous actions. With respect to unexpected and superior advantage of fiberglass over carbon, the advantage being that the modulus of elasticity is less than or equal to that of dentin which prevents sacrificing the tooth when the tooth is placed under stress, however, no actual evidence has been shown to support this claim, and in particular, to support it in view of the actual claimed invention. Applicant's argue that Reynaud has a higher modulus of elasticity because it teaches 21 GPa for dentin, while dentin has an actual value of 18 GPa, and also, that the value of Reynaud is actually higher then 21 because Reynaud measures at an angle. It is held that the arguments and evidence supporting them are not commensurate with the claim

language because the claims do not actual claim a specific value for the modulus of elasticity and because the value of the modulus of elasticity that is claimed is very broad and nebulous. This is because the claims are directed to articles not a method, and therefore, the actual claim language of having a modulus of elasticity approximating or less than or equal to the modulus of elasticity of a natural tooth only limits the claims to a range of the modulus of elasticity, and is not limited to the intended method step of using the article with a tooth such that the modulus of elasticity is approximate or less than or equal to the modulus of elasticity of the tooth it is used with. This claim limitation is broad because when limiting a property of the claim article by comparing it to the same property in tooth dentin, the actual limitation is as broad as there exist different modulus of elasticity for all and any of the different tooth dentin that exists. With respect to applicant's remarks concerning Reynaud's using a measurement of the modulus of elasticity at an angle, it is noted that the claims are not limited to any specific manner of measuring the modulus of elasticity and that the disclosure does not teach such. Therefore, it is proper for the examiner to use any measure of the modulus of elasticity in meeting the claim language, and this further renders the actual claimed modulus of elasticity very broad. In view of this, it is held that Reynaud's teaching of the modulus of elasticity being close to that of a tooth obviously falls within the actual claimed range of the modulus of elasticity. With respect to the claimed medical grade optical fibers, it is held that when placing a medical device in the body one of ordinary skill in the art would be expected to use medical grade materials. Applicant argues that Alpert's teaching of the use of carbon or glass does not teach the unexpected results of

the tooth not being sacrificed because of the post modulus of elasticity with respect to the tooth's modulus of elasticity, however, in view of the above remarks directed to the broadness of the claim language with respect to the modulus of elasticity, it is held that the combination meets this language. Applicant further argues because there is no suggestion in Alpert as to the use of fiberglass in a post having a modulus of elasticity that approximate, or is less than or equal to that of a natural tooth, the advantages of such are not taught and it would require one of ordinary skill in the art to engage in extensive research and experimentation, and therefore is not obvious. This is disagreed with because Reynaud teaches and suggests using a modulus of elasticity close to a natural tooth dentin, because Alpert teaches the known alternative of using carbon or fiberglass in an endodontic post, because of the broad range of the claimed modulus of elasticity, and because one of ordinary skill in the art would find it obvious to adjust the content of the fiber to alter the properties as is known, see [0186] of the present published application 2002/0123023. Applicant includes evidence in the concurrently filled affidavit that Reynaud discloses a modulus of elasticity significantly higher then that of a natural tooth, the evidence stating that the common measurement used for modulus of elasticity of teeth is vertical while Reynaud measures at an angle. As stated above this evidence and argument are not commensurate with the broad claim language. The submitted affidavit also provides evidence that there is no absolute value for the modulus of elasticity because of the multitude of variables in the samples of dentin used. This is agreed with and is the reason that the present claim language limiting the modulus of elasticity is so broad and nebulous as discussed above. It is

also noted again that neither the claims nor the present disclosure provide for any specific limitation or teaching of how the modulus of elasticity is obtained. Applicant also argues that glass fiber inherently has a lower modulus of elasticity then carbon and supports this statement with evidence in the attached affidavit. Applicant concludes that because of this it would not be obvious to modify Reynaud and would require extensive experimentation. This argument and evidence are not convincing because the evidence appears to be directed to fibers of glass and carbon only and not a composite as claimed, and it is not clear that a composite of glass fibers would inherently have a modulus of elasticity lower then a composite of carbon fibers, because the modulus of elasticity is broadly claimed as detailed above, and because modifying a fiber composite to obtain a desired modulus of elasticity would be obvious to one of ordinary skill in the art as also indicated above. Applicant argues that because Alpert is to a rope that has advantages and Reynaud is directed to a post, the combination would lose the advantages of using the rope of Alpert. This argument is disagreed with because the rejection is based on Reynaud in view of Alpert and using a known alternative material in the post of Reynaud would not destroy the Reynaud reference. Applicant argues that glass and carbon fibers are not known alternatives with respect to flexibility and modulus of elasticity as compared to a natural tooth. The combination is suggested because both references are directed to known fibers used in root canal procedures and because of the broad range of the claimed modulus of elasticity as discussed above. now cited reference was not incorporated in the original disclosure. Applicant further argues that Goldberg is for external use, and as such, it would not be obvious to modify

Reynard. This argument is disagreed with because the teaching of Goldberg is that one of ordinary skill in the art of dentistry would understand that, if a dental product is to be reinforced, it can be reinforced with either carbon or glass fibers. One of ordinary skill in the art with this teaching would find the elements equivalent reinforcing elements with predictable results.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Wilson whose telephone number is 571-272-4722). The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez, can be reached at 571-272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/***John J Wilson***/
Primary Examiner
Art Unit 3732

jw
August 8, 2008